TOPIC: **RECOMMEND APPROVAL OF MASTER OF ARTS IN APPLIED GEOGRAPHY AND GEO-SPATIAL SCIENCE AT UNIVERSITY OF COLORADO DENVER**

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I. SUMMARY

This item recommends approval for University of Colorado Denver (UCD) to offer a Master of Arts in Applied Geography and Geo-Spatial Science degree.

II. BACKGROUND

The Colorado Commission on Higher Education's role and responsibility in the review of new academic programs at institutions operating under a performance contract is limited to review for fit with statutory role and mission, per §23-5-129(6)(b), C.R.S.

OVERVIEW OF PROPOSED PROGRAM

The following is summarized from UCD's proposal:

> Students in the program will receive extensive training in geo-spatial science which is a federally recognized STEM area that includes geographic information systems (GIS) as well as computer cartography, remotely sensed image analysis, and spatial statistics. The coursework required for this two-year, 36 credit hour interdisciplinary program includes greater than 50% of STEM qualified coursework and an additional 20% focused on professional development. This program has received preliminary approval for certification as a Professional Science Masters (PSM) program by the PSM national office.

Additional information on this proposed degree, unrelated to fit with statutory role and mission, is attached (Appendix A).

ROLE AND MISSION SUPPORT

This degree supports UCD's statutory role and mission, which states:

> *(b) The Denver campus of the university of Colorado shall be an urban comprehensive undergraduate and graduate research university with selective admission standards. The Denver campus shall offer baccalaureate, master's, and a limited number of doctoral degree programs, emphasizing those that serve the needs of the Denver metropolitan area. The Denver campus has statewide authority to offer*

graduate programs in public administration and exclusive authority in architecture and planning. C.R.S. §23-20-101

III. STAFF ANALYSIS

Pursuant to Colorado Revised Statutes 23-5-129(6)(b), department staff finds that the institution's proposed degree is consistent with the institution's statutory role and mission. The proposed program is on the agenda to be approved by the CU Board of Regents at its April 29, 2014 meeting.

IV. STAFF RECOMMENDATION

Staff recommends that the Commission approve University of Colorado Denver's proposal to offer a Master of Arts in Applied Geography and Geo-Spatial Science degree pending approval by the CU Board of Regents.

STATUTORY AUTHORITY

C.R.S. §23-5-129 Governing boards - performance contract - authorization – operations

(6) While operating pursuant to a performance contract negotiated pursuant to this section, the governing board of a state institution of higher education:
(b) Need not consult with nor obtain approval from the Colorado commission on higher education to create, modify, or eliminate academic and vocational programs offered by the institution, so long as such creations, modifications, and eliminations are consistent with the institution's statutory role and mission. Institutions shall submit information to the department demonstrating that the creation or modification of an academic or career and technical education program is consistent with the institution's statutory role and mission. The Colorado commission on higher education shall have the authority to override the creation or modification of an academic or vocational program if the change made by the governing board is inconsistent with the institution's statutory role and mission.

APPENDIX:

Appendix A: Additional Information

APPENDIX A: ADDITIONAL INFORMATION

This additional information is unrelated to the proposed degree's fit with the institution's statutory role and mission. The following is summarized from the institution's proposal:

EVIDENCE OF NEED

Graduates of the proposed program will be on career trajectories that emphasize the application of these geo-spatial technical capabilities within a wide variety of institutional settings. Graduates of the program will exit with a distinctive and highly marketable set of skills and abilities, including state-of-the-art training in multiple geospatial techniques. The curriculum of the proposed M.A. program in Applied Geography and Geo- Spatial Science aligns strongly with regional and national labor market needs. The Bureau of Labor and Statistics Occupational Outlook Handbook (2012-13) notes that jobs with the title of "Geographer" will continue to grow at a much faster than average pace between 2010 and 2020). The Handbook also notes that "Geographers need at least a master's degree for most positions outside of the federal government." The U.S. Department of Labor (DOL, September 2012) also notes that there will be an increased demand for geographic information, advanced technologies and the geospatial industry. According to this source, geography-related engineering occupations, such as cartographers, surveyors, GIS specialists, and photogrammetrists (geo-spatial science) represent one of the 10 occupational groups projected to have the fastest growth of employment between 2010 and 2020. Furthermore, Daratech, a geographic information systems research firm, reported that the geospatial science and technology industry grew worldwide by 10.3% in 2010 to $4.4 billion and forecasted an additional 8.3% growth to almost $5 billion in 2011. According to a January 2012 report by Global Industry Analysts, Inc. the geo-spatial science and technology industry is expected to grow worldwide to $10.6 Billion by 2015.

A survey of undergraduate students who were majoring in Geography at CU Denver revealed a strong interest (94%) in an MA in Applied Geography and Geo-spatial Science. At CU Denver the growth from 2007-2013 in students enrolled as Geography majors (92% increase), is far greater than the overall enrollment of undergraduate major students in the College of Liberal Arts and Sciences (32%). As the first students are not expected to enroll in the program until the fall 2015 semester, the program will have plenty of time for marketing and student recruitment.

DUPLICATION

This proposed M.A. program will offer a curriculum that emphasizes geo-spatial science and technologies and will complement the M.S. degree program in Environmental Science offered by the Department of Geography and Environmental Sciences. This program is also different from the MA programs in Geography offered at CU Boulder and UCCS. The M.A. in Geography at CU-Boulder concentrates on preparing students for further study in the field, including the pursuit of a Ph.D. The Geography M.A. at UCCS is also a well-established

program. It has a traditional open curriculum with no requirement for coursework in geo-spatial science and a focus on the Pikes Peak region.